

HENRY (F.P.)

Gastric Ulcer : a Clinical Lecture delivered at the Woman's Hospital of Philadelphia.

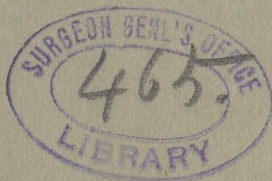
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GASTRIC ULCER:

A CLINICAL LECTURE

DELIVERED AT THE WOMAN'S HOSPITAL OF PHILADELPHIA,

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I wish to make this clinic both complementary and supplementary to the didactic course, and, with this end in view, I will endeavor to illustrate the latter by appropriate cases, and occasionally I will introduce a patient for the express purpose of enabling me to discuss a subject which otherwise would have to be postponed until the next winter's session.

The patient before you is one of the complementary cases—that is, her symptoms all point to an organ the diseases of which we have lately been studying in systematic detail. She has pain in the epigastric region shortly after eating, of a dull aching character, felt at times in the spine between the shoulder blades, and immediately relieved by vomiting. The relief which follows emesis is so prompt and so decided that the patient has acquired the habit of vomiting by irritating the fauces with her index finger. There is some tenderness in the epigastrium, only elicited by strong pressure, which is perhaps due to the fact that the layer of adipose tissue on the abdominal surface—the



panniculus adiposus, as it is technically styled—is decidedly thick. It may also be due to the fact that the lesion which is the cause of this tenderness is seated on the posterior wall of the stomach.

I would specially direct your attention to the well-nourished condition of this patient. She is stout and florid, and, in fact, presents every external appearance of health. In speaking of gastric ulcer, you may recollect that I emphasized the fact that the external appearance, the so-called *facies*, of the sufferers from this disease was often such as to contradict the idea of an organic affection. This, of course, only obtains in the early stages of gastric ulcer, and you may also recollect my having mentioned that when in these cases failure of health occurred, it was apt to be sudden and decided.

From the fact of my having mentioned gastric ulcer, you have doubtless already surmised that I suspect this affection to be present in the case before us. Before, however, formally pronouncing a diagnosis of gastric ulcer, we must be careful to exclude other affections which resemble it. Cancer is out of the question. There is no symptom of stenosis of either orifice; there is no emaciation; on the contrary, the woman is stout and well nourished; there are no enlarged supraclavicular lymphatic glands; and, finally, as I hope to be able to show you presently, hydrochloric acid is abundantly present in the gastric secretions.

Let us next inquire as to the possible presence of chronic gastric catarrh. You are all familiar with the symptoms of this affection, for we have lately studied it in what I believe to be as thorough a manner as is possible with our present means of research. We have learned that while there is in catarrh a sense of uneasiness and distention after eating, actual pain is rarely present, and when complained of is not described as being severe. The anorexia is also more complete

than in ulcer. In fact, in ulcer the appetite may be good, being restrained for fear of the pain excited by its indulgence. Vomiting, when present, occurs at irregular periods, for example, before breakfast, and the vomited matters are mingled with mucus, or may consist solely of this substance. Symptoms other than pain, referable to the nervous system, are more common in chronic gastric catarrh than in ulcer, such as vertigo, insomnia, and hypochondria. The tongue is usually heavily coated, whereas in ulcer it is often remarkably clean. Finally, hydrochloric acid is often absent from the gastric secretions in cases of catarrh, especially when it is attended with abundant secretion of mucus.

Functional gastric disorder, the so-called nervous dyspepsia, is another affection that must be excluded before we can regard our patient as a case of gastric ulcer.

In nervous dyspepsia there are eructations of gas which are distinguished from those occurring in cases of catarrh by the fact that they are tasteless and odorless. Vomiting is rare. The appetite may be altogether absent or anorexia may alternate with periods of hyperorexia or bulimia. In catarrh the appetite is persistently absent. In nervous dyspepsia there is often pain in the stomach, but it occurs at irregular periods, not immediately after eating, as in ulcer, and, in fact, the pain may sometimes be relieved by eating. The tenderness in these cases is sometimes relieved by firm, steady pressure, whereas in ulcer the tenderness is in direct ratio to the degree of pressure.

There is one symptom to which I have not yet alluded, and which, if present, would settle this diagnostic problem offhand. This is hæmatemesis, which, of the three affections we have in mind—viz., ulcer, catarrh, and dyspepsia nervosa—is characteristic, not to say pathognomonic, of the first. Now, it is uncertain whether or not this patient has vomited blood. You may well inquire why there

should be any uncertainty about the matter, and the reply is that recently streaks of blood appeared in the vomited matters, and that the slight hæmorrhage may have been due to the patient's efforts to relieve herself by vomiting. You will recollect my having told you that she excites emesis by thrusting her finger down her throat, and it is possible that in performing this manœuvre she may have injured the mucous membrane of the fauces. There are, however, no traces of any such injury.

In lecturing on gastric ulcer, I insisted on the fact that an ulcer can not be produced in a healthy animal by an injury of the gastric mucous membrane; but I said that if after such injury the gastric juice was rendered hyperacid by the occasional injection into the stomach of a solution of hydrochloric acid—for example, of the strength of five *pro mille*—the loss of substance, instead of rapidly healing, would degenerate into a typical round ulcer.

Again, ulcer will develop after an injury to the stomach of a chlorotic woman, even though the gastric juice be of normal acidity. Injury alone will not excite ulcer; otherwise this disease would be one of the commonest, for the stomach is daily exposed to traumatism from thermal and mechanical causes.

For the production of gastric ulcer two things are necessary: 1. Traumatism. 2. A disproportion between the composition of the gastric juice and that of the blood.

This disproportion usually lies in the direction of hyperacidity of the gastric juice; but in a chlorotic woman whose gastric and other tissues are ill nourished, the gastric juice may be *relatively* hyperacid, even although the percentage of hydrochloric acid may be normal. In other words, the gastric tissues of a chlorotic female are less prone to heal after injury than are those of a person in good health—that is, they are less able to resist the corrod-

ing action of the gastric juice, and less able to institute the process of repair.

Our patient is certainly not chlorotic, and therefore if she is suffering from gastric ulcer we should expect to find a hyperacid condition of her gastric juice.

In the bottle in my hand there are two or three drachms of a perfectly clear, watery fluid, which is the filtrate of the matters vomited by this woman about an hour after eating. In this other bottle is a small amount of a yellowish liquor, which is composed of phloroglucin, two grammes; vanillin, one gramme; absolute alcohol, thirty grammes. This is the famous test for hydrochloric acid in the gastric secretions invented by Dr. Günzburg, of Germany, about which I have said so much in my lectures on the diseases of the stomach. It is undoubtedly the best test for the presence of hydrochloric acid in the gastric secretions, and is practically free from all sources of fallacy. I am, besides, especially interested in Günzburg's test because I believe I was the first to call public attention to it in this country. You will find it described by me in an editorial article in the *Medical News* for January 14, 1888, entitled Free Hydrochloric Acid in the Gastric Juice. The original article in which it was described by Günzburg appeared in the *Centralblatt für klinische Medizin* for October 1, 1887.

I will now proceed to apply this test in your presence. I pour two or three drops of the gastric filtrate into a watch-glass and add to it the same amount of the test solution. I then heat the mixture over a spirit-lamp, taking care not to boil it, and in a few seconds brilliant streaks of red appear in the edges of the fluid—*i. e.*, in its thinnest portions—which gradually spread until the bottom of the glass is entirely red. I advise you by all means to use a watch-glass for this test instead of the porcelain dish usually em-

ployed by chemists, because the watch-glass can be placed under the microscope and examined with a lower power by transmitted light. If this is done, it will be found that the red material which has formed on heating the mixture is largely made up of minute crystals which present a beautiful microscopic picture.

The object of heating the fluid was simply to drive off the water by evaporation, and thereby make the solution of hydrochloric acid more concentrated. This test is one of extraordinary delicacy, demonstrating hydrochloric acid in the gastric secretions when it is present in them to the extent of one twentieth of one per mille—0·05 pro mille.

I have now demonstrated the existence of free hydrochloric acid in the gastric juice of our patient, and, from the decided response to Günzburg's test, I am confident that it is present in undue amount. In cases of more doubtful diagnosis than the one we are studying we should go further in our chemical research and determine the percentage of hydrochloric acid in the fluid vomited or withdrawn from the stomach. This is readily ascertained by the well-known chemical process of titration. I did not attempt a quantitative analysis, because the amount of the filtrate was insufficient for that purpose.

I believe myself to be fully warranted in pronouncing a diagnosis of gastric ulcer in this case. Everything points in this direction: The sex—ulcer largely preponderating in females; the age, which is certainly not advanced; the character of the pain and its immediate relief by vomiting; the comparatively good state of the bodily nutrition; and, last, and most important, the abundant presence of hydrochloric acid in the gastric juice. These facts, I repeat, each one of which is significant, point unmistakably in the direction of gastric ulcer.

Prognosis.—We come now to consider the question of

greatest interest to the patient—the prospect of recovery. Barring accident, this, under proper treatment, is good. We can not see this ulcer, and therefore know nothing concerning its area and its depth. It may have destroyed nothing more than the mucosa, while, on the other hand, it may have destroyed the submucosa and the muscularis, being prevented from perforation by the delicate serous covering of the stomach. Again, its base may be adherent to neighboring organs. Such considerations should make us guarded in our prognosis.

Hæmorrhage is another event that may occur at any moment.

The best safeguard against accident is the immediate institution of proper

Treatment.—The patient should be placed at rest. Bodily exertion of all kind should be strictly forbidden, for muscular movements might rupture protective adhesions, and so cause the fatal accident of perforation. Of all muscular acts, those concerned in vomiting are most injurious in these cases, and therefore pain should be relieved and muscular irritability allayed by opium or one of its preparations. Opium also accomplishes another important indication in obtunding the sense of thirst so often present in these cases. Nourishment should be administered for a few days by the rectum, but, in case of objection to this repugnant measure, the diet for a week at least should consist of peptonized milk mingled with lime-water. The latter substance is added for the purpose of neutralizing the excessive acidity of the gastric juice. Bicarbonate of sodium will accomplish the same result, but is not a safe remedy on account of the evolution of gas which follows its administration. Beef peptones and eggs may be gradually added to the peptonized milk, and by degrees a more liberal diet is permitted.

Medicinally, I can recommend nothing in addition to opium except the subnitrate of bismuth in large doses—say thirty grains three or four times daily. It serves to neutralize acidity, and may, as some hold, form a protective coating upon the ulcerated surface. Benefit has apparently been derived from the use of nitrate of silver, but, in my opinion, such benefit is only apparent. It seems to me absurd to expect any local effect from nitrate of silver in these cases. The stomach is surcharged with acid secretions, which decompose this drug immediately. It might as well be decomposed beforehand by placing it in a glass of salt and water, and the patient directed to swallow it.

We will advise this patient to live on an exclusive diet of peptonized milk mingled with lime-water, in the proportion of half an ounce of the latter to four ounces of the former. We will keep her strictly quiet, in bed if possible; and we will order, besides, half a drachm of subnitrate of bismuth every four hours. In addition we will allay pain and vomiting with suitable amounts of morphine. For the latter purpose, one eighth of a grain daily may suffice, while, on the other hand, one grain in divided doses may be necessary.

If these directions are carried out, I hope to present her to you, on some subsequent occasion, much improved in every respect.



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